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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application Number: 10/631,831
Filing Date: August 01, 2003
Appellant(s): CAMELOT ET AL.

Gilberto M. Villacorta
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 1-28-08 appealing from the Office action mailed 3-29-07.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

| | | |
|---|---|---|
| 6,153,236 | Wu et al. | 2-08 |
| 4,537,784 | PERCEL E et al. | 8-1985 |
| EP 0699392 | CHUNG | 3-96 |

Borsook, H. et al. "The Preparation of Crystalline Lactic Acid", Kerckhoff Laboratories of Biological Sciences, California Institute of Technology, Pasadena, CA, June 7, 1933, pages 449-460.

Schouten et al. (Low Temperature Crystal Structure and Molecular Conformation of L(+) Lactic Acid, J. Mol. Structure, 323:165-168 (1994).

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 7-16, 18-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung et al. (EP 0699392 A2) or Wu et al. (6,153,236) or Percel et al. (4,537,784) in view of Borsook et al. and Schouten.

Chung et al. disclose that it is known to coat solid acids in powder form in a fluidized bed apparatus (page 5, lines 22-30). Also, Wu et al. disclose that it is known to encapsulate lactic acid in a low melt oil (abstract and col. 1, lines 30-31). Percel et al.

disclose that it is known to plate lactic acid onto a calcium lactate carrier, which is encapsulated. This process is seen to make a dry lactic acid, which is seen to have been crystalline. Also, even though lactic acid liquefies quickly, this does not mean that it could not be a starting material since it is a known solid aid and using it would be practical since a solid can be easier to handle. The claims do not exclude the use of lactic acid nor do they contain any amounts. Claims 1 and 2 differ from the reference in the use of crystalline lactic acid particles (CLAP). However, Borsook et al. disclose that crystalline LA is well known. Schouten discloses the structure of CLAP. As it is known to coat other solid acids in a fluidized bed apparatus, it would have been obvious to coat LA also since it can be in a crystalline solid form and it would have been obvious to substitute crystalline lactic acid (CLA) since it quickly becomes a liquid that can be easily applied to a carrier. Claim 1 further requires a composition containing a wetting agent. However, Percel et al. disclose a composition containing 50% lactic acid as (anhydrous) to 50% carrier in which the carrier is calcium lactate which is disclosed as a wetting agent as in cancelled claim 6 (col. 3, lines 1-24). Also, Percel et al. disclose that it is known to use silicon dioxide (wetting agent) (claim 7) as a substrate when plating LA. (col. 10, lines 5-35). Therefore, it would have been obvious to use a known type of silica in the claimed composition.

CLA is disclosed by Schouten as in claim 3 and the use of oil in claim 4 is disclosed by Wu et al. (abstract). The melting point of oils is generally between the claimed range as in claim 4 (col. 4, lines 20-30). Therefore, it would have been obvious

to use oils at within the claimed melting points as disclosed by Wu and Schouten in the composition of Chung et al. and Wu et al.

Claim 8 further requires the use of partially hydrogenated palm oil (a vegetable oil as in claim 5), which melts at 61 C for the encapsulating agent. Such oils are disclosed by Wu et al. (col. 4, lines 1-30). Therefore, it would have been obvious to use a known oil in the claimed composition.

Claim 9 further requires up to 95% LA. Certainly, the above references contain various amounts under 95%.

The coating materials as in claim 10 and 11 are seen to contain various amounts of coating material and wetting agents. The various amounts are seen to have been within the skill of the ordinary worker. Therefore, it would have been obvious to use various amounts of materials in the composition.

Nothing is seen as in claim 12 that the LA of the combined references is not dispersable in water in 60 minutes.

Wu et al. discloses that LA can be used in sausage as in claims 13 and 14, 16 (col. 7, lines 55-65).

The stability of a food product would have been enhanced as in claim 15, since the LA is an acid, which is known to reduce the pH of foods thereby increasing the shelf life of food. Claim 15 has been amended to require a wetting agent, which has been shown as known as above. Therefore, it would have been obvious to use CLAP in food products just as LA was used as shown by the combined references.

Claims 18, 20-21 are to the method of coating LA crystals which has been shown by the combined references. As it is known to make crystals of LA, and it is known to coat liquid, LA , and it is known to coat solid acids, it would have been obvious to use known methods to coat solid acids as shown by Chung et al. Also, Percel et al. disclose that it is known to combine anhydrous lactic acid, which is seen to be crystalline absent a showing or arguments to the contrary. The acid is combined or plated with calcium lactate (wetting agent) and then encapsulated with fat (col. 3, lines 1-31). Therefore, it would have been obvious to use the wetting agent in the process of the combined references as shown by Percel et al.

The particular micron size is seen to have been within the skill of the ordinary worker depending on the use of the CLAP as in claim 19 and fluidized coater are disclosed by Chung et al. (page 5, lines 18-25). Therefore, it would have been obvious to coat a solid acid as shown by Chung et al.

The limitations of claims 22-27 have been disclosed above and are obvious for those reasons.

**(10) Response to Argument**

Appellants argue as to Percel that dry or powdered lactic acid is not necessarily equivalent to crystalline lactic acid, that it is not rendered crystalline because it is anhydrous and that many crystalline substances, which are hygroscopic such as crystalline lactic acid can contain water. The reference to Percel et al. use lactic acid, which is sprayed onto the calcium lactate and coated with a lipid. The lactic acid is anhydrous. Nothing is seen that anhydrous lactic acid is not crystalline, since the water

is removed. The calcium lactate is seen to absorb any further amount of water (col. 3, lines 1-24). Also, the reference discloses that some flashing off of water occurs, which is seen to also make a crystalline product. No weight is given to the method of producing a crystalline product in a composition claim. Nothing has been shown positively that the lactic acid of Percel is not crystalline. Mere arguments do not substitute for a showing that the lactic acid of Percel is not crystalline.

Appellants argue that the use of crystalline lactic acid (CLA) was unknown, and that Percel discloses that CLA is very deliquescent and when exposed to the atmosphere quickly liquefies and so can't be used for meat acidulation, and that Percel teaches the use of liquid lactic acid sprayed onto a solid carrier. However, the fact that CLA is deliquescent does not mean that it could not be used as a starting material which turns liquid in order to be sprayed onto a solid carrier. The use of a solid CLA would have been practical since as a solid it can be easier to handle. It would have been obvious to substitute crystalline lactic acid since it quickly becomes a liquid that can be easily applied to a carrier.

As to Wu, Wu is not used alone, but in view of the other references that disclose that it would have been obvious to substitute CLA for lactic acid since a solid CLA can be easier to handle.

As to Chung, Appellants argue that the reference discloses coating various leavening acid cores with a barrier material and that lactic acid is not mentioned. Percel discloses that lactic acid has a tangy flavor obtained by natural fermentation. The lactic

acid may not be suitable for use in a dough or short bread composition because of its flavor (col. 2, lines 3-7).

It is not seen that following the example cited in the MPEP set forth on page 8 of the appeal brief that there is no suggestion to encapsulate CLA, since as above, even Chung discloses encapsulating acids in general, and Appellants have cited no problem present in CLA that the process of Chung could not encapsulate lactic acid.

Appellants argue that the references do not show a reasonable expectation of success since the teaching in Percel of it being "impossible" to use CLA in encapsulated form. This is not what the reference states. It says that "it has thus been impossible to use crystalline lactic acid for meat acidulation", not encapsulation (col. 2, lines 13-18).

Appellants argue that the claimed invention results in unexpected results in that the CLA can be encapsulated without the need for a substrate, and that the art required the use of solid carriers to absorb liquid lactic acid. However, the claims are open comprising type claims and do not exclude the use of solid carriers. The ingredients of the claims have been shown as above. No amounts are seen until claim 9 and only claim 9, which shows that the lactic acid content of the inventive particles can be higher than previously found possible. In addition the amount of "up to 95% lactic acid in claim 9 reads on zero. No unexpected results are seen, as the above combination of references disclose that it would have been obvious to substitute CLA for lactic acid. It would follow that the encapsulated solid lactic acid particles would have been easy to handle and less expensive than encapsulated liquid lactic acid, since it would have been obvious to substitute CLA for lactic acid as shown by the combined references.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Helen F. Pratt/

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Conferees: /Romulo Delmendo/

/Milton I. Cano/

Supervisory Patent Examiner, Art Unit 1794